

AGENDA ITEM #5: UPDATE ON THE PRELIMINARY DRAFT SOCIOECONOMIC REPORT

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Socioeconomic Analysis

Update Summary

- **Preliminary incremental cost**, broken down to include:
 - Incentives financed by federal, state, and local governments
 - Remaining incremental cost incurred by private industries, consumers, and public agencies
- **Preliminary public health benefits**
 - Currently for years 2023 & 2031
 - Will estimate for all in-between years during 2017-31

What Costs Are Being Quantified?

- ☒ Measures with quantified emission reductions ready to be committed into State Implementation Plan (SIP)
(Note: Measures that recognize co-benefit ozone emission reductions from other programs will not have incremental costs.)
- ☐ MOB-14 existing projects, which are in baseline emissions inventory
- ☐ Measures with TBD/NYQ emission reductions – preliminary costs or unit costs, wherever available, will be discussed in cost appendix

Preliminary Costs of Draft 2016 AQMP

Measures	Present Worth Value in 2017 Billions of 2015 dollars					Average Annual Amortized Cost (2017-2031) 2015\$B
	Remaining Incremental Cost		Incentives		Total Incremental Cost	
SCAQMD Stationary Source	\$6.6	+	\$1.4	=	\$8.0	\$0.4
SCAQMD Mobile Source	\$0.9	+	\$0.6	=	\$1.5	\$0.1
CARB Mobile Source	\$16.6	+	\$12.1	=	\$28.7	\$2.0
Total	\$24.1	+	\$14.1	=	\$38.2	\$2.5

Note: Numbers may not add up due to rounding.

Preliminary Public Health Benefits of Draft 2016 AQMP

Monetized Public Health Benefits (Billions of 2015 Dollars per Year)			
	2023	2031	% of Total
Mortality	\$26.8	\$36.7	> 99%
Morbidity	\$0.1	\$0.2	< 1%
Total	\$26.9	\$36.9	100%

Note: These numbers represent point estimates of quantified health effects and midpoints of valuation parameters.

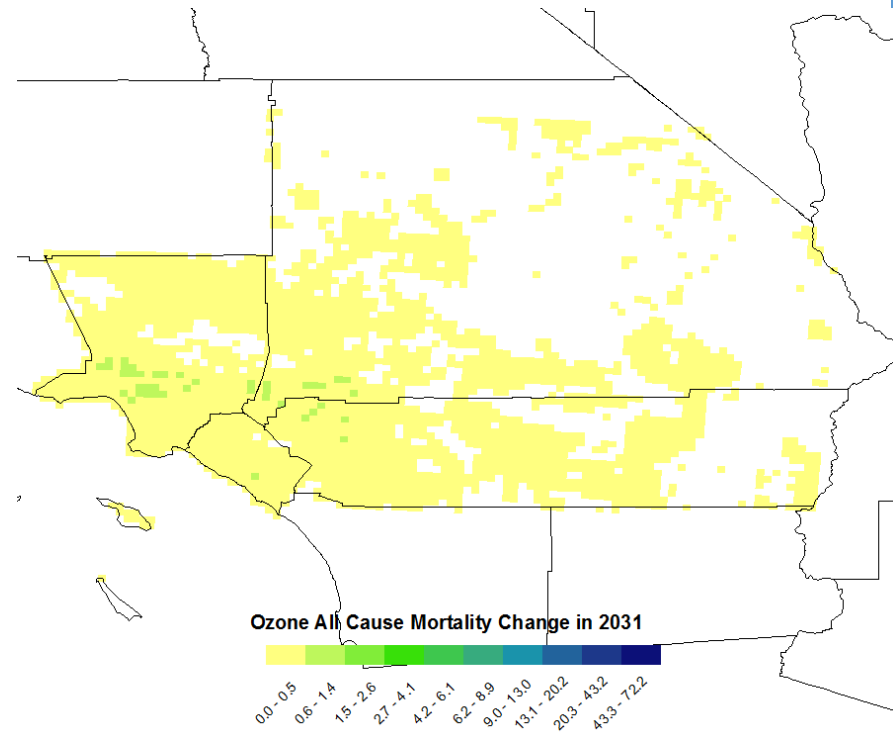
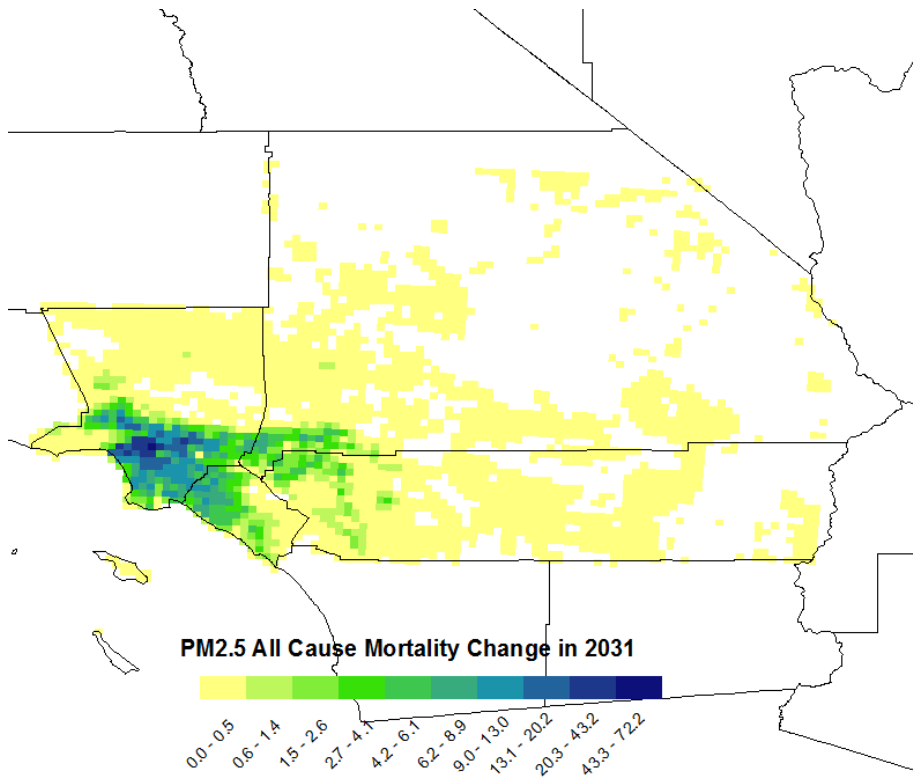
Preliminary Mortality Effects of Draft 2016 AQMP

Premature Deaths Avoided			
Mortality, All Cause (25 and Older)	2023	2031	% of Total
Short-term Ozone Exposure	51	87	~3%
Long-term PM _{2.5} Exposure	2,111	2,425	~97%
Total	2,163	2,512	100%

Note: 1) Confidence intervals are reported in benefits appendix;

2) Premature deaths avoided associated with short-term PM_{2.5} exposure will be estimated separately due to potential double counting concerns with mortality effects from long-term PM_{2.5} exposure.

Preliminary Mortality Effects of Draft 2016 AQMP (cont'd)



Recognizing Benefits Uncertainty

Monetized Public Health Benefits (Billions of 2015 dollars per Year)						
	2023			2031		
	Lower Bound (\$4.2M, $\epsilon_l=0$)	Midpoint (\$9M, $\epsilon_l=1.1$)	Upper Bound (\$13.7M, $\epsilon_l=1.4$)	Lower Bound (\$4.2M, $\epsilon_l=0$)	Midpoint (\$9M, $\epsilon_l=1.1$)	Upper Bound (\$13.7M, $\epsilon_l=1.4$)
Mortality, All Cause (25 and older)	\$9.1	\$26.8	\$49.4	\$10.6	\$36.7	\$70.9

VSL: midpoint \$9 million; range of \$4.2-\$13.7 million (2013\$ and income levels).

Income elasticity: 1.1 recommended; with 0 and 1.4 for sensitivity analysis.

Preliminary Morbidity-Related Benefits

Monetized Morbidity Benefits (Millions of 2015\$ per year)		
Morbidity Endpoint	2023	2031
Short-term Ozone Exposure	38.8	63.9
Emergency Room Visits, Asthma	0.4	0.6
Hospital Admissions (HA), All Respiratory	1.1	2.1
Minor Restricted Activity Days	9.2	15.9
School Loss Days	28.1	45.3
PM_{2.5} Exposure	84.2	97.7
Long-term		
Acute Bronchitis	6.1	7.2
Short-term		
Acute Myocardial Infarction, Nonfatal	1.2	1.6
Asthma Exacerbation (Wheeze, Cough, Shortness of Breath)	1.0	1.2
HA and Emergency Department Visits, Asthma	0.4	0.5
HA, All Cardiovascular (less Myocardial Infarctions)	6.9	8.6
HA, All Respiratory	5.3	6.8
HA, Ischemic Stroke	7.9	10.1
Lower Respiratory Symptoms	0.4	0.5
Minor Restricted Activity Days	19.5	22.8
Upper Respiratory Symptoms	0.9	1.1
Work Loss Days	34.6	37.5
Total Morbidity Benefits	123.0	161.8

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